

REMARKS

The Official Action and cited references have again been carefully reviewed. The review indicates that the claims, as currently amended, recite patentable subject matter and should be allowed. Reconsideration and allowance are therefore respectfully requested.

In advance of contending with the grounds upon which the claims have been rejected, a summarization of the improved integrated metal etch tool for removing post-RIE polymer rails from Al/Cu metal lines of a semiconductor structure of the invention will be provided to foster easier grasp of the integrated metal etch tool containing therein strip, vacuum and deionized rinse chamber means compared to the structures disclosed in the Chen and Davis et al. references.

In the art of making semiconductor structures in which there must be removal of post-RIE polymer rails that are formed on a Al/Cu metal line, applicants are the first to invent interfaceable strip, vacuum and rinse chamber means within an integrated metal etch tool that permits removing the sidewall polymers left behind after the metal (Al/Cu) RIE process. The novel chamber means of the interfaced metal etch tool performs the chemistry (either post resist strip or prior to resist strip), thereby allowing a final rinse step of only using deionized water as a rinse.

Claims 13-17 were rejected as being anticipated by Chen et al. under 35 USC 102(b).

Applicants respectfully traverse the rejection and request reconsideration for the following reasons:

Chen et al. in FIG. 2 disclose a schematic view in vertical cross-section of a vacuum chamber for passivating, stripping and corrosion inhibition of a semiconductor substrate. The processing equipment also strips the polymeric remnant resist remaining on the substrate; however, as stated in column 3, lines 17-19, the process only uses conventional processing equipment to passivate and strip the substrate.

This conventional processing equipment is clearly depicted in FIG. 2, and includes, as acknowledged in the Office Action, a vacuum chamber 52, comprising a plasma generation zone and a vacuum zone (column 5, lines 51-52).

The disclosure of Chen et al. makes no reference to or mention of, an integrated interface metal etch tool comprising chamber means therein to perform the semiconductor structure chemistry (either post resist strip or prior to resist strip) to allow a final rinse step of only using deionized water.

Finally, the apparatus in FIG. 2 of Chen et al. makes no reference to or mention of, any chamber means for forming a water-only plasma process to limit thickness of sidewall polymer that permits removal of water-soluble materials with deionized water.

Therefore, "the apparatus disclosed" in Chen et al. fails to anticipate applicants' claims as presently amended.

Withdrawal of the rejection is respectfully requested.

Claims 13-17 were rejected as being anticipated by Davis et al, under 35 USC 102 (b).

Applicants respectfully traverse this rejection and request reconsideration for the following reasons.

Davis et al. disclose apparatus for transferring work pieces, that include integrating circuits. The apparatus essentially comprises:

- (a) a vacuum carrier having a sealable carrier door and capable of maintaining a vacuum with the workpieces therein, the carrier door movable between an open and close position;
- (b) a chamber adapted to receive the carrier and selective move and carrier door and having a closeable port; the chamber capable of maintaining an applied vacuum;
- (c) a moveable arm located within the chamber and capable of engaging the workpieces, the arm moveable into the carrier and through the port to transfer the workpieces;
- (d) a transfer mechanism located exterior to the chamber and adapted to transfer the workpieces from the arm to a non-vacuum processing station; and
- (e) a control system selectively applying vacuum and ambient pressure to the chamber.

Even though Davis et al. teaches a multi-chamber apparatus, that apparatus clearly lacks chamber means to perform semiconductor structure chemistry (either post resist strip or prior to resist strip) to allow a final rinse step of only using deionized water.

Thus, contrary to the assertion in the Office Action, Davis et al. could not possibly anticipate applicants' claims as presently revised.

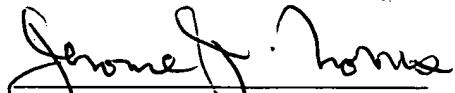
Withdrawal of the rejection is respectfully requested.

Note is taken of the allegation that, in essence asserts, that the means-plus-function language does not appear to make clear what function is associated with the chamber means; however, in view of the amendments to Claims 13 through 17, after reviewing the application as initially filed together with the Office Actions notes on means-test-function language, it is believed that the present posture of these claims comply with the requirements. The stripping, vacuum and distilled water rising chamber means interfaceable in integrated metal etch tool 5 is now clearly defined.

In view of the foregoing amendments, remarks and arguments, it is believed that the application is now in condition for allowance (especially in view of the fact that the abstract is also now revised to encompass a

single paragraph), and early notification of the same is earnestly solicited.

Respectfully submitted,


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